EN

Super-Bond

Dental composite resin kit

Universal Kit

Universal Starter Kit

EN

INSTRUCTIONS

IMPORTANT :
READ ALL INSTRUCTIONS THOROUGHLY BEFORE USE.
KEEP THIS LEAFLET AND REFER TO IT PERIODICALLY.

Dental composite resin kit

Super-Bond Universal Kit
Super-Bond Universal Starter Kit

FOR DENTIST USE ONLY

1. Product Overview

Super-Bond is a self-curing adhesive resin cement, it contains 4-META*1,MMA*2,TBB*3 and PMMA*4 (4-META/MMA-TBB resin). It may be used to cement all fixed dental prosthesis fabricated from a wide range of dental materials. With the appropriate surface pre-treatment, it will adhere to tooth enamel, dentin, metal, ceramic, zirconia and resin composite.

*1 : 4-methacryloyloxyethyl trimellitate anhydride
*2 : Methyl methacrylate
*3 : Tri-n-butyl borane
*4 : Poly methyl methacrylate

Indications:

Super-Bond is indicated for the followings:
a. Orthodontic application
b. Direct fixation of mobile teeth
c. Direct bonded bridge
d. Repair of fractured prostheses
e. Cementing of inlays, onlays, crowns, bridges, veneers and root posts

Contraindication:

Patient who has a history of severe allergic reactions to this product or methacrylate monomers and acetone.

Side effect:

In rare cases, components of Super-Bond may lead to sensitization. In such cases, Super-Bond should no longer be used.

2. Components

Super-Bond*5
①Super-Bond Universal Kit
②Super-Bond Universal Starter Kit

Components	Amount or quantity in the kit	①	②
Super-Bond Catalyst V	0.7 mL	○	—
	0.3 mL	—	○
Super-Bond Quick Monomer	10 mL	○	—
	3.5 mL	—	○
Super-Bond Universal Polymer (Clear)	3 g	○ 2 jars	○ 1 jar
Super-Bond Universal Polymer (Esthetic)	3 g		
Super-Bond Universal Polymer (Radiopaque)	5 g		
Teeth Primer	3 mL	○	○
M&C PRIMER A	2 mL	○	○
M&C PRIMER B	2 mL	○	○

Accessories	Amount or quantity in the kit	①	②
Dispensing Stand	1	○	○
Dispensing Cups	20×1	○	○
Measuring Spoon (Standard)	1	○	○
Brush Handle (Bent)	1	○	○
Brush Tips (Brush-dip L)	10×1	○	—
Brush Tips (Brush-dip LL)	10×1	○	○
Spatula (Grey)	1	○	○

■ Attached documents : Instructions, Pictorial Instruction Card
*5 : Components of the kits may be purchased individually.

3. Compositions

①Super-Bond Catalyst V (Catalyst V):
Partially oxidized tri-n-butyl borane, Others.
②Super-Bond Quick Monomer (Quick Monomer):
Methacrylate monomers, Others.
③Super-Bond Universal Polymer (Polymer powder):
Poly methyl methacrylate, Others.
④Teeth Primer:
Methacrylate monomer, Acetone, Water, Others.
⑤M&C PRIMER A:
Methacrylate monomers, Acetone, Others.
⑥M&C PRIMER B:
Methacrylate monomer, Silane coupling agent.

Components		Form
①		Colorless transparent liquid
②		Colorless pale yellow transparent liquid
③	Clear	White powder
	Esthetic	Pale yellow powder
	Radiopaque	Pale yellow powder
④		Colorless liquid
⑤		Colorless pale yellow transparent liquid
⑥		Colorless liquid

4. Precautions

4.1 Safety precautions

①Super-Bond components contain substances, such as methacrylate monomers and/or acetone, that may cause allergic reactions. They are not for use on or by persons who are sensitive to acrylates, methacrylates or similar materials and acetone. Exposure to uncured resins may cause irritation, dermatitis or inflammatory reactions to tissues (skin, mucosa, eyes, etc.) of sensitive individual. If this occurs, discontinue the use, flush area with copious amounts of water and seek medical attention, if necessary.
②Avoid Super-Bond components contacts with soft tissues, skin or eyes. Contaminated area should be wiped off immediately with alcohol and then rinse thoroughly with copious amounts of running water. If the components enter the eye, rinse immediately and thoroughly with copious amounts of running water and have the patient examined by an ophthalmologist.
③Avoid accidental ingestion while applying and rinsing Super-Bond components. When ingested, seek the medical attention, if necessary.
④Handle Super-Bond components in a well ventilated area (air out the area several times per hour). In case of inhalation of the vapor, move for fresh air.
⑤Catalyst V, Quick Monomer, Teeth Primer and M&C PRIMER are highly volatile and flammable. Do not store where they may be exposed to open flame.

4.2 Common precautions

①The use of rubber dam is recommended.
②Dentists should wear dental gloves.
③Do not mix components with those of other materials.
④Use this product only for the applications recommended in these instructions.

4.3 Handling precautions

①Contaminated surface with such as oil, blood, saliva and biofilms will lower the bond strength. Clean the tooth and prosthesis thoroughly. After cleaning, take care to avoid re-contamination by isolating the surface adequately. Using rubber dam is highly recommended.
②Fluoride and oil will lower the bond strength. Dental paste containing fluoride or oil should not be used for cleaning tooth surface.
③Eugenol is a polymerization inhibitor. Therefore, eugenol-contained bases and cements should not be used with Super-Bond components.
④Sodium hypochlorite is a polymerization inhibitor. When using Super-Bond on the dentin surface treated with sodium hypochlorite, Super-Bond C&B Green Activator or Dentin Etchant Gel should be applied after sodium hypochlorite use. The treatment duration with sodium hypochlorite should be limited to less than 15 seconds. Details on how to use Super-Bond C&B Green Activator and Dentin Etchant Gel can be found in the attached document.
⑤Catalyst V, Quick Monomer, Teeth Primer and M&C PRIMER are highly volatile. Firmly recap immediately after use.
⑥Teeth Primer and M&C PRIMER are volatile. Use it immediately after dispensing.
⑦Teeth Primer is a primer for 4META/MMA-TBB resin (Super-Bond etc.) only.
⑧When dispensing Teeth Primer and M&C PRIMER, hold the bottle perpendicular to the mixing well. Allow the drops to fully form to have volume constant and to prevent contamination of the nozzle. If the nozzle gets contaminated, wipe it off with cotton pledget.
⑨M&C PRIMER should be applied only once to form a single layer. Repeated application will lower the bond strength.
⑩The Activated Liquid (mixture of Catalyst V and Quick Monomer) gradually deactivates. Use it within 5 minutes after mixing.
⑪Shake Polymer powder container before opening to fluff the powder so that the scooped volume is constant.
⑫Super-Bond may be discolored, if combined with a temporary cement containing tannic acid.
⑬Super-Bond components is single use only. Do not return dispensed components to their original container. Dispose of leftover material properly. After using Super-Bond in the Brush-dip technique, dispose of any excess Polymer powder left in the dish.
⑭Brush Tips and Dispensing Cups are single use only. Do not reuse. Discard after each use.
⑮When a preparation is deep, close to the pulp, protect the pulp with appropriate material.

4.4 Precautions on Catalyst V

Catalyst V reacts with air and water to generate heat and lose activity. Abide by the following.

1) Storage conditions
Avoid high temperature, high humidity and direct sunlight. The repeated change in temperature may cause the syringe to aspirate air, thereby shortening the Catalyst V's shelf-life.
*After prolonged storage, the first drop of the Catalyst V may have less activity due to the exposure to the air (oxygen), though the rest of the material in the container remains unaffected. Disposing of a drop before using will ensure the proper chemical reaction.
*The syringe is made of glass, therefore it must be handled carefully to avoid shock, dropping, and other physical damage.

2) After use
Turn the syringe screw two turns counter-clockwise after each use to relieve the pressure of the Catalyst V barrel (Built up pressure can cause leakage of the Catalyst V or in some case crack the syringe).

3) Cap closure
The cap simply slides on and off. Recap the syringe immediately after each use. Air deactivates the Catalyst V. Do not leave the cap off.

4) Cleaning syringe
Wipe the tip of the syringe with a dry gauze after each use to prevent residue building up. The gauze used should be saturated with water to fully deactivate Catalyst V before disposal. Buildup of the residue may cause the cap seat improperly.

5) Clean spilled Catalyst V immediately with wet towels
If absorbed by a combustible material, it may raise the temperature enough to cause smoldering. Spilled or unused Catalyst V should be blotted up immediately with a WET (not dry) disposable towel. Then saturate the towel to deactivate the Catalyst V thoroughly in running water.

6) Problem in expressing the Catalyst V
If the Catalyst V does not form drop due to the blockage at the orifice or the screw does not turn, do not force it. The contents may splash if the glass syringe breaks. Please contact your distributer.

7) Others
If there is any inconvenience, please contact your distributer.

5. Storage

1) Storage conditions
①Store Super-Bond components at room temperature between 1 - 30°C and in a dark location. High temperature, high humidity and direct sunlight will shorten their shelf-life.
②Do not use this product after the expiration date. See outer package for expiration date.

2) Product life time
Product lifetime can be shortened depending on the circumstances of use. Read all provided instructions carefully before use.

6. Disposal

①Remove the syringe cap and soak the empty syringe of Catalyst V in water 24 hours or longer. Dispose it in accordance with local regulations.
②Dispose of empty containers or package except Catalyst V in accordance with local regulations.

As in any dental treatment, the patient's individual constitution and the unique requirements of clinical case must be considered before selecting materials and conditions for use.

7. How to use

Choosing the right Polymer powder

Super-Bond is provided with three different Polymer powders.

①Super-Bond Universal Polymer Clear and Esthetic
Fine PMMA powder without radiopaque filler. When cured, its medium translucency and inconspicuous shade is ideal for temporary splinting of loose teeth, fabricating temporary prostheses using a resin tooth or extracted tooth, or direct bonding of orthodontic brackets with the Brush-dip technique.

②Super-Bond Universal Polymer Radiopaque
This polymer powder contains highly radiopaque filler in addition to the PMMA powder. When it is used in the Bulk-mix technique, the cured resin shows radiopacity equivalent to enamel.

7.1 Surface preparation

It is essential that all surfaces to be bonded with Super-Bond are properly prepared. Preparation method can vary depending on the nature of the materials.

1) Tooth surface

①Cleaning
Clean all surfaces to be bonded following the usual procedure. If necessary, clean all surfaces using a polishing cup/ brush with oil-free, fluoride-free pumice. Rinse thoroughly and dry. Isolation by rubber dam or cotton roll is recommended.

②Application of Teeth Primer
Dispense Teeth Primer to a mixing well. Apply it with a sponge pledget or brush and keep it moist for 20 seconds, then air dry. Care should be taken not to contact the gingiva.

Note: Etchants (For enamel: Super-Bond C&B Red Activator, Enamel Etchant Gel, For dentin: Super-Bond C&B Green Activator, Dentin Etchant Gel) can be also used for tooth surface treatment. Details on how to use these etchants can be found in the attached document.

2) Metal, ceramic, zirconia and resin composite surface

①Cleaning and conditioning
Clean all surfaces to be bonded following the usual procedure. Pretreat and condition the surface to be bonded, following the specific instructions of each prosthetic material and product. Roughen up the surface with diamond bur or sandblast if necessary.

Note: Applying Super-Bond C&B Red Activator or Enamel Etchant Gel will help remove surface contaminants, and ultrasonic cleaner is also effective. Details on how to use the etchants can be found in the attached document.

②Application of M&C PRIMER
Dispense M&C PRIMER A and B to a disposable mixing well and mix with a sponge pledget or brush. Use equal number of drops of A and B. Use immediately after dispensing as the mixture evaporates quickly. Apply a thin coat on the prosthesis' entire surface to be bonded then thoroughly air dry after. No need to wait. Surfaces made of non- precious metal do not require pretreatment with M&C PRIMER.

[M&C PRIMER mixing ratio]
A : B = 1 : 1

7.2 Brush-dip technique

Recommended clinical cases:
Direct fixation of mobile teeth, Bonding orthodontics brackets, Direct bonded bridge, Repair of fractured prostheses etc.

Note: For various surface preparations, please refer to "7.1 Surface preparation" above.

1) Dispensing Polymer powder
Set two Dispensing Cups to Dispensing Dish. Dispense an appropriate amount of Polymer powder into one of the first cup. Flatten the top of dispensed Polymer powder in the cup by gently tapping the side of Dispensing Dish with the fingers or hitting the table by the bottom of the Dispensing Dish.

2) Preparation of Activated Liquid
Hold Quick Monomer bottle perpendicular to the cup and dispense appropriate number of drops into the second cup. Hold Catalyst V syringe perpendicular to the cup, dispense the proper number of drops into the monomer by turning the screw. Stir gently with the Brush Tip. The Activated Liquid gradually deactivates, use it within 5 minutes after mixing.

[Activated Liquid mixing ratio]

Activated Liquid	
Quick Monomer	**Catalyst V**
4 drops	1 drop
8 drops	2 drops

3) Application of the Super-Bond (resin) cement
Attach Brush Tip to Brush Handle. Wet the Brush Tip with the Activated Liquid then touch the Polymer powder in the cup lightly with the very tip of the brush. A small ball of Polymer powder will form at the end of the brush and can be picked up. Transfer and apply the Polymer ball onto the surface to be bonded. As soon as it touches the surface, the Polymer will spread out to form a creamy, homogeneous cement layer. If necessary, repeat the procedure until the entire surface is covered with the adequate amount of cement.

Note: When you repeat the picking up procedure, clean up the brush with gauze between forming balls.

Note: Apply a coat of the activated liquid to the surface before placing the first layer will help Super-Bond spread smoothly.

4) Setting and finishing
The curing time varies with the ambient temperature. The standard curing time at mouth temperature (37°C) is 5 to 6 minutes. Start finishing and polishing after 6 minutes or later. Confirm if the sufficient curing has achieved.

7.3 Bulk-mix technique

Recommended clinical cases:
Cementing of inlays, onlays, crowns, bridges, veneers and root post etc.

Note: For surface preparation, please refer to "7.1 Surface preparation" above.

Note: When you are applying cement into the prepared post space, micro brush can also be used.

1) Preparation of Activated Liquid
Set a Dispensing Cup to Dispensing Dish. Hold the Quick Monomer bottle perpendicular to the cup and dispense appropriate number of drops into the cup. Hold Catalyst V syringe perpendicular to the cup, dispense the proper number of drops into the monomer by turning the screw. Stir gently with Spatula.

[Activated Liquid mixing ratio]

Activated Liquid	
Quick Monomer	**Catalyst V**
4 drops	1 drop
8 drops	2 drops

2) Mixing Polymer powder
Immediately after preparation of the Activated Liquid, place a scoop of Polymer powder measured with the Measuring Spoon into the cup of Activated Liquid. Stir gently with Spatula to create a creamy cement.

Note: The working time varies with the ambient temperature. The mixing ratio of Activated Liquid / Polymer powder and the working time of Super-Bond (resin) cement are as follows:

[Activated Liquid / Polymer powder mixing ratio and working time]

Mixing ratio			Working time from start of the mixing (23°C)
Activated Liquid		Polymer powder	
Quick Monomer	**Catalyst V**		
4 drops	1 drop	1 Small cup	approx. 80 sec.
8 drops	2 drops	1 Large cup	approx. 80 sec.

Note: For the cementing of a large bridge and root post, it can be recommended to use low-viscosity Super-Bond (resin) cement. Such cement allows to be spread over the entire surface of the restoration easily. In these cases, the following mixing ratio of Activated Liquid / Polymer powder are recommended.

[Activated Liquid / Polymer powder mixing ratio and working time]

Mixing ratio			Working time from start of the mixing (23°C)
Activated Liquid		Polymer powder	
Quick Monomer	**Catalyst V**		
5 drops	1 drop	1 Small cup	approx. 100 sec.
6 drops	1 drop	1 Small cup	approx. 120 sec.

3) Application of the Super-Bond (resin) cement
Immediately after mixing, load the cement mixture to the intaglio of the prosthesis and spread it thin over the entire inner surface of the restoration.

Note: When using low-viscosity Super-Bond (resin) cement, the use of Brush Tips (Brush-dip L / Brush-dip LL) with Brush Handle is recommended.

4) Seating the restoration
Place the cement-filled restoration and apply constant seating pressure until the unit is fully seated. Allow excess cement to extrude from all margins. The cement becomes rubbery after setting begins, remove excess cement in rubbery state before curing completely. Then, verify the seating by having the patient close into occlusion and confirming full seating.

5) Setting and finishing
The curing time varies with the ambient temperature. The standard curing time at mouth temperature (37°C) is 5 to 6 minutes. Start finishing and polishing after 6 minutes or later. Confirm if the sufficient curing has achieved.

Note: In the case of using low-viscosity Super-Bond (resin) cement, the curing time at mouth temperature (37°C) is 1-2 minutes longer than standard curing time.

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